Self-Assessment in Biochemistry for Medicine and Dentistry

by W.G. Armstrong, F.B. Reed and P.J. Wells

Blackwell Scientific Publications, Oxford, 1984

197 pages £7 50

Like them or not, multiple choice questions are a fact of educational life, and to argue their value in a book review is out of place. The sixteen-page discussion on the role of MCQs as testing and evaluative tools at the beginning of this book is, I suspect, equally out of place.

Intended for preclinical medical and dental students for self-assessment and self-tuition, the book contains over 500 MCQs in Biochemistry. The questions cover six major subject areas – Structure, Metabolism, Enzymes, Nutrition and digestion, Physical biochemistry, and Oral and clinical biochemistry – and each is in the form of a statement (or question) with four possible answers. For some questions selecting the correct answer requires no more than a good memory, but for the majority memory recall must be combined with logical thought, deduction and/or simple calculations.

The second part of the book contains the answers, set out concisely and helpfully. The correct answers are given, there are brief comments about the answers (referring to correct and incorrect choices), and there are a number of references to standard textbooks.

I have three reservations about this otherwise satisfactory book. Firstly, I wish the authors had checked the wording of their questions more carefully in view of the pitfalls they discuss in their introduction (and others not mentioned by them). It is difficult to write unambiguous MCQs. Publish a 'how it should be done' section in your book, and the difficult becomes almost impossible.

Secondly, I think students may find the price (£7.50) rather high. Although on a 'cost per question' basis it compares very favourably with O'Sullivan and Smith's book 'Multiple Choice Questions in Biochemistry' (Edward Arnold, 112 questions, £2.50), it *is* half the cost of a full standard textbook!

Finally, I was concerned about the author's claim that the MCQs in the book "cover all the biochemistry subject matter common to either undergraduate course" (i.e., 2nd M.B. and B.D.S.). They don't and they can't. Fortunately the claim occurs in the Introduction, which students will probably skip.

This is not a book which I would strongly recommend, but I do suggest that students glance through it in their bookshop – they might find it useful and some may even have the cash to buy it!

E.M. Evans

Protein Phosphorylation in the Nervous System

by E.J. Nestler and P. Greengard

John Wiley & Sons, New York, Chichester, 1984

398 pages. £60.85

Protein phosphorylation has been implicated in virtually every type of biological phenomenon indicating that the functions of a very large number of cellular proteins are physiologically regulated by

phosphorylation. Research in protein phosphorylation has spread to many distinct areas, making it difficult for many scientists to keep track of new developments. The book of Nestler and Greengard brings together basic data on protein phosphorylation and relates these to the nervous system. The book is divided roughly into three parts. Part I provides an introduction to the generally established facts in protein phosphorylation which includes a chapter each on protein kinases, protein phosphatases and substrate proteins; part II is devoted to the nervous system and includes chapters on the experimental evidence for the importance of protein phosphorylation for the brain, on the regional distribution of specific brain phosphoproteins and experiments on the gene expression of certain phosphoproteins; part III focuses on two general themes: (a) how to avoid artifacts and (b) on the concepts about the interaction of different phosphorylation systems regulated by various second messengers

The book gives an easily readable introduction to the field and some in-depth information on the relevance of protein phosphorylation for the nervous system. The chapters are related mainly to the work of the authors but include references to the work of other groups. The importance of protein phosphorylation as a regulatory mechanism is overstressed in certain areas (e.g., guanylate cyclase, adenylate cyclase). The book is written clearly, reads easily, and provides in many instances references to reviews on specialized areas of the field. Thus, the book may be used as an introduction to the field of protein phosphorylation in general and to the possible relevance of this regulatory system for the nervous system. A major set-back to the book is its relative high price of over £60, which will allow only well-funded libraries to purchase it.

F. Hofmann

Plasma Protein Secretion by the Liver

Edited by H. Glaumann, T. Peters, jr and C. Redman

Academic Press; Orlando, FL, 1983

497 pages

This is a really valuable book drawing together contributors with a wide range of expertises, dealing systematically with many methods, and levels of study, and discussing specifically all the major proteins secreted by the liver. It is the kind of book to which workers in the field will refer for all those basic facts which they should known but somehow do not and to which outsiders will refer for an authoritative introduction. The structure of the book is clear and helpful. The introduction comprises a brief survey by Peters of the plasma proteins made by the liver (with helpful tables on their concentrations, molecular weights, etc.) and a well-judged survey by Meldolesi of the basic mechanisms of protein secretion, which introduces many topics which are later to be explored in more depth.

The next section deals with methods The opening chapter, on the ultrastructure of the liver and principles of liver morphometry, includes some fascinating tables detailing the relative volumes and membrane areas of liver cell organelles. It is followed by a very comprehensive and authoritative chapter by Eriksson and Glaumann on subcellular fractionation of the liver and isolation of endoplasmic reticulum and Golgi fractions, a chapter on the application of immunohistochemistry and radioautography to the process of secretion in the liver and chapters dealing with the study of secretion at the level of the isolated perfused liver, liver slices and hepatocytes in culture. This section is followed by one entitled 'Interpretations' which presents current views on the molecular mechanisms of the various processes involved in secretion. A chapter by Sabatini and colleagues deals with cotranslational insertion and vectorial transfer into the lumen of the endoplasmic reticulum, while one by Jamieson deals with glycosylation